

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

PCT/JP2003/012004



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Applicant's or agent's file reference 143251-022	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/012004	International filing date (day/month/year) 19 September 2003 (19.09.2003)	Priority date (day/month/year) 20 September 2002 (20.09.2002)
International Patent Classification (IPC) or national classification and IPC B01D 53/26, 53/06		
Applicant TOKYO ELECTRON LIMITED		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 23 August 2004 (23.08.2004)	Date of completion of this report 02 March 2005 (02.03.2005)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

Form PCT/IPEA/409 (cover sheet) (January 2004)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/012004

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages _____
- pages* _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____
- pages* _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____
- pages* _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP03/12004

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims

1-11

YES

Claims

NO

Inventive step (IS)

Claims

YES

Claims

1-11

NO

Industrial applicability (IA)

Claims

1-11

YES

Claims

NO

2. Citations and explanations (Rule 70.7)

Document 1: JP, 2001-44089, A (Takasago Thermal Engineering Co., Ltd.), 16 February, 2001 (16.02.01)

Document 2: JP, 9-47627, A (Babcock-Hitachi K.K.), 18 February, 1997 (18.02.97)

Document 3: JP, 2001-276551, A (Nichias Corp. and Alpha Giken K.K.), 9 October, 2001 (09.10.01)

Document 4: JP, 3-248837, A (Daikin Industries, Ltd.), 6 November, 1991 (06.11.91)

Document 5: JP, 5-38413, A (Mitsubishi Heavy Industries, Ltd.), 19 February, 1993 (19.02.93)

The subject matter of claim 1 does not appear to involve an inventive step in view of document 1 cited in the ISR and a well-known technique. Document 1 (Figs. 2 and 5, paragraphs 0010, 0030-0033, and 0035-0038) describes a dry air supply device, in which (1) three rotors for removing water and organic matter are connected in series, and (2) the air that has passed through the adsorbing zones of the respective rotors is heated and passed through the regenerating zones of the respective rotors. Furthermore, a device having plural adsorbing rotors arranged in series, in which (1) the number of rotors is decreased in response, for example, to the kind of gas to be treated and (2) a common drive means is used for the respective rotors, is considered to be a well-known technique without the necessity of citing examples. A person skilled in the art could have easily applied the well-known technique to the invention described in document 1.

The subject matters of claims 2 and 11 do not appear to involve an inventive step in view of document 1 and well-known techniques. A treatment apparatus having (1) a treatment unit for treating a material undergoing treatment, (2) a carrying space for the material undergoing treatment, and (3) a dry air supply device for sucking and drying the air of the said carrying space and returning it into the said carrying space, is considered to be well known without the necessity of citing examples. A person skilled in the art could have employed the dry air supply device described in document 1 for supplying dry air to the said well-known treatment apparatus.

Furthermore, supplying air into plural carrying spaces is also considered to be a well-known technique without the necessity of citing examples.

The subject matter of claim 3 does not appear to involve an inventive step in view of document 1 and a well-known technique. Document 1 (Fig. 2 and paragraph 0038) describes that part of the air that has passed through the adsorbing zones of rotors passes through the cooling zones (purging air passages) provided for the rotors before it passes through a heater.

The subject matter of claim 4 does not appear to involve an inventive step in view of document 1 and a well-known technique. Document 1 (paragraph 0069) describes that a filter for removing particles is provided at the outlet of dry air.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: V

The subject matter of claim 5 does not appear to involve an inventive step in view of document 1, document 2 cited in the ISR and a well-known technique. Document 2 (Fig. 1 and paragraph 0013) describes that (1) plural rotors are respectively driven for being rotated by plural belt pulleys through an endless belt, and (2) the respective rotors are made different in rotating speed. A person skilled in the art could have easily employed the driving system of the invention described in document 1 as the system described in document 2.

The subject matter of claim 6 does not appear to involve an inventive step in view of document 1 and a well-known technique. Fig. 2 of document 1 shows that a heating means is provided before the regenerating region of each rotor.

The subject matter of claim 7 does not appear to involve an inventive step in view of document 1 and a well-known technique. Document 1 (paragraph 0084, etc.) describes that the dew point of dried air is kept at lower than a certain level. Furthermore, a dry air supply device, in which a dew point measuring instrument is provided for keeping the dew point at lower than a certain level, for control in reference to the measured value, is considered to be a well-known technique without the necessity of citing examples.

The subject matter of claim 8 does not appear to involve an inventive step in view of document 1, newly cited document 3 and a well-known technique. Document 3 (paragraph 0005) describes a rotor type adsorber, in which a partition member is provided with a finned seal. A person skilled in the art could have easily applied the said seal to the dry air supply device described in document 1.

The subject matter of claim 9 does not appear to involve an inventive step in view of documents 1 and 3, newly cited document 4, and well-known techniques. Document 4 (Fig. 4) describes an annular packing member pressed to an end face of a rotor. Furthermore, providing a sliding sheet in a sliding portion of a rotor type adsorber is considered to be well known, for example, as described in document 4 (page 2, lower left column, lines 3-6). A person skilled in the art could have easily employed these publicly known or well-known constitutions in the dry air supply device described in document 1.

The subject matter of claim 10 does not appear to involve an inventive step in view of document 1, document 5 cited in the ISR and a well-known technique. Document 5 (Fig. 1, etc.) describes that a rotor is driven intermittently in such a manner that (1) when the rotor is rotated, a partition member facing it leaves from an end face of the rotor and (2) when the rotor stops rotating, it contacts the end face of the rotor. A person skilled in the art could have easily applied the structure described in document 5 to the invention described in document 1.